

CLAIMS:

1. An electric double layer capacitor comprising a pair of polarizable electrodes and an electrolyte;

5 which electric double layer capacitor is characterized in that the polarizable electrodes are composed primarily of activated carbon having micropores with a pore radius distribution peak as determined by the MP method in a range of 5.0×10^{-10} to 1.0×10^{-9} m, and the electrolyte includes at least an ionic liquid in a concentration of more than 2.0 mol/L.

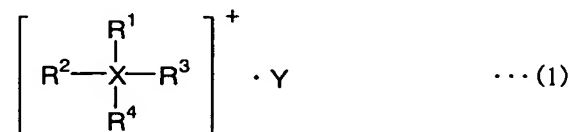
2. The electric double layer capacitor of claim 1 which is characterized in that the electrolyte is composed solely of the ionic liquid.

3. The electric double layer capacitor of claim 1 or 2 which is characterized in that the electrolyte includes two or more ionic liquids.

4. The electric double layer capacitor of any one of claims 1 to 3 which is characterized in that the ionic liquid is a quaternary ammonium salt or a quaternary phosphonium salt.

5. The electric double layer capacitor of any one of claims 1 to 4 which is characterized in that the ionic liquid has the following general formula (1)

[Chemical Formula 1]

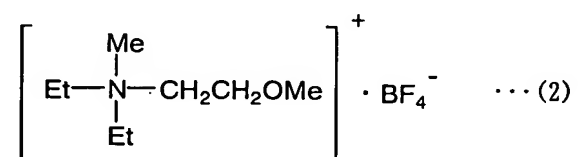


wherein R^1 to R^4 are each independently an alkyl group of 1 to 5 carbons or an alkoxyalkyl group of the formula $R'-O-(CH_2)_n$ (R' being methyl or ethyl, and the letter n

being an integer from 1 to 4) and any two from among R¹, R², R³ and R⁴ may together form a ring, with the proviso that at least one of R¹ to R⁴ is an alkoxyalkyl group of the above formula; X is a nitrogen atom or a phosphorus atom; and Y is
5 a monovalent anion.

6. The electric double layer capacitor of any one of claims 1 to 5 which is characterized in that the ionic liquid has the following formula (2)

10 [Chemical Formula 2]



wherein Me stands for methyl and Et stands for ethyl.

7. The electric double layer capacitor of any one of
15 claims 1 to 6, wherein the activated carbon is a chemically activated product of at least one carbonized material selected from among coal-based pitch, petroleum-based pitch, coke and mesophase carbon.